Engineering Interpretations

Construction Material and Excavating

Soils are rated as sources for road fill, topsoil, sand, and gravel. Suitability ratings of good, fair, or poor are given for soils used as a source of road fill and topsoil. Ratings of probable and improbable are given for sand and gravel. A rating of probable means that on the basis of the available evidence, the source material is likely to be in or below the soil. A rating of improbable means that the source material is unlikely to be in or below the soil. The ratings for sand and gravel do not consider the quality of the source material because quality depends on how the source material is to be used.

Road Fill

Road fill consists of soil material that is excavated from its original position and used in road embankments elsewhere. The evaluations for road fill are for low embankments that generally are less than 6 feet in height and are less exacting in design than high embankments such as those along superhighways. The rating is given for the whole soil, from the surface to a depth of about 5 feet, based on the assumption that soil horizons will be mixed in loading, dumping, and spreading. Soils are rated as to the amount of material available for excavation, the ease of excavation, and how well the material performs after it is in place.

Sand

Sand as a construction material is usually defined as particles ranging in size from 0.074 mm (sieve #200) to 4.75 mm (sieve #4) in diameter. Sand is used in great quantities in many kinds of construction. Specifications for each purpose vary widely. The intent of this rating is to show only the probability of finding material in suitable quantity. The suitability of the sand for specific purposes is not evaluated. If the lowest layer of the soil contains sand, the soil is rated as a probable source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

Gravel

Gravel as a construction material is defined as particles ranging in size from 4.76 mm (sieve #4) to 76 mm (3 inches) in diameter.

Gravel is used in great quantities in many kinds of construction. Specifications for each purpose vary widely. The intent of this rating is to show only the probability of finding material in suitable quantity. The suitability of the gravel for specific purposes is not evaluated. If the lowest layer of the soil contains gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil

The term "topsoil" has several meanings. As used here, the term describes soil material used to cover an area so as to improve soil conditions for establishment and maintenance of adapted vegetation. Generally, the upper part of the soil, which is richest in organic matter, is most desirable; however, material excavated from deeper layers is also used. In this rating, the upper 40 inches of soil material is evaluated for use as topsoil. In the

borrow area, the material below 40 inches is evaluated for its suitability for plant growth after the upper 40 inches is removed. The soil properties that are used to rate the soil as topsoil are those that affect plant growth, the ease of excavation, loading, and spreading, and those that affect the reclamation of the borrow area.

This subsection includes:

• (a) Construction Materials and Excavating

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	 Source for sand 	l	 Source for grave 	el	 Source for topsoi 	1	 Shallow excavation 	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value _	Rating class and limiting features	Value	Rating class and limiting features	Value _ _
70022: Tonti	 	 0.48 0.04	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	0.75	 Very limited ~small stones (very limited) ~dense layer <20" (very limited) ~area reclaim (very limited)	 1.00 1.00 	 Very limited ~dense layer <20" (very limited) ~wetness (very limited) ~cutbanks cave (very limited)	 1.00 1.00 1.00
70025: Branson	 - Very limited ~low strength (very limited)	 1.00 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Slightly limited ~too acid (slightly limited) 	 0.12 	Slightly limited ~cutbanks cave (slightly limited) ~too clayey (slightly limited)	0.29
Splitlimb	Very limited -low strength (very limited) -wetness (limited) -shrink-swell (moderately limited)	 1.00 0.71 0.45	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	Limited ~wetness (limited) ~too acid (moderately limited) ~too clayey (moderately limited)	0.71	 very limited ~wetness (very limited) ~cutbanks cave (slightly limited)	1.00
70026: Tonti	 Moderately limited ~wetness (moderately limited) ~shrink-swell (slightly limited)	 0.48 0.04	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	0.75	 Very limited ~small stones (very limited) ~dense layer <20" (very limited) ~area reclaim (very limited)	 1.00 1.00 1.00	 Very limited ~dense layer <20" (very limited) ~wetness (very limited) ~cutbanks cave (very limited)	 1.00 1.00
73000: Pomme	 - Not limited 	 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Limited ~small stones (limited) ~too clayey (limited) ~too acid (slightly limited)	0.88	 Very limited ~cutbanks cave (very limited) ~too clayey (very limited)	 1.00 1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	.11	 Source for sand 	l	 Source for grave 	el	Source for topsoi 	1	 Shallow excavation 	ns
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73013: Lowassie	- Very limited -wetness (very limited) -low strength (very limited) -shrink-swell (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~wetness (very limited) ~too clayey (very limited) ~too acid (moderately limited)	 1.00 1.00 0.54	 Very limited ~ponded (wetness) (very limited) ~wetness (very limited) ~too clayey (moderately limited)	 1.00 1.00 0.60
73017: Bendavis	Very limited -depth to bedrock (very limited) -slope (very limited) -wetness (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	İ	 Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	0.75	 Very limited ~slope (very limited) ~small stones (very limited) ~large surface stones (limited)	 1.00 	Very limited	 1.00 1.00 1.00
Poynor	Very limited -low strength (very limited) -slope (limited) -shrink-swell (slightly limited)	1.00	 	 1.00 1.00 	 Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~slope (very limited) ~small stones (very limited) ~too acid (moderately limited)	 1.00 1.00 0.36	(very limited) ~cutbanks cave (very limited)	 1.00 1.00 1.00
73019: Poynor	 - Very limited ~low strength (very limited) ~shrink-swell (slightly limited)	1.00	Not Rated Not Rated ~excess fines (thickest layer)	 1.00 	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~small stones (very limited) ~too acid (moderately limited) ~too clayey (moderately limited)	 1.00 0.42 0.33	 Very limited ~cutbanks cave (very limited) ~too clayey (limited)	 1.00 0.99

Construction Materials and Excavating

Map symbol and soil name	 Source for roadfi	11	 Source for sand		 Source for grave	el	 Source for topsoi	1	 Shallow excavation	ons
soli name			 							
	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value
73021:		 		 						
Poynor	Very limited ~low strength (very limited) ~slope (limited) ~shrink-swell (slightly limited)	 1.00 0.92 0.14	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	 1.00 0.50	Very limited ~slope (very limited) ~small stones (very limited) ~too clayey (moderately limited)	 1.00 1.00 0.50	Very limited ~slope (very limited) ~cutbanks cave (very limited) ~too clayey (very limited)	 1.00 1.00 1.00
73023:								İ		İ
Mano	Very limited ~low strength (very limited) ~shrink-swell (moderately limited) ~wetness (slightly limited)	 1.00 0.50 0.12	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	Very limited ~small stones (very limited) ~too acid (slightly limited) ~wetness (slightly limited)	 1.00 0.30 0.12	Very limited ~cutbanks cave (very limited) ~too clayey (very limited) ~wetness (very limited)	 1.00 1.00 1.00
Ocie	Very limited ~low strength (very limited) ~shrink-swell (limited) ~depth to bedrock (slightly limited)	 1.00 0.85 0.25	 	 1.00 1.00 	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	Very limited	 1.00 0.88 0.12	 Very limited ~too clayey (very limited) ~cutbanks cave (very limited) ~wetness (very limited)	 1.00 1.00 1.00
73024: Mano	 Very limited ~low strength (very limited) ~shrink-swell (moderately limited) ~wetness (slightly limited)	 1.00 0.50 0.12	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~small stones (very limited) ~slope (limited) ~too acid (moderately limited)	 1.00 0.63 0.48	 Very limited ~cutbanks cave (very limited) ~too clayey (very limited) ~wetness (very limited)	 1.00 1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	 Source for sand 		Source for grave	el	Source for topsoi	1	 Shallow excavation 	ons
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value
73024: (cont) Ocie	Very limited ~low strength (very limited) ~shrink-swell (limited) ~depth to bedrock (slightly limited)	 1.00 0.85 0.25	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~too clayey (very limited) ~small stones (limited) ~slope (limited)	 1.00 0.88 0.63	 Very limited ~too clayey (very limited) ~cutbanks cave (very limited) ~wetness (very limited)	 1.00 1.00 1.00
73032: Gatewood	Very limited ~low strength (very limited) ~depth to bedrock (very limited) ~shrink-swell (very limited)	 1.00 1.00 1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~depth to bedrock (very limited) ~too clayey (very limited) ~small stones (limited)	 1.00 1.00 0.88	 Very limited ~hard bedrock <40" (very limited) ~wetness (very limited) ~too clayey (very limited)	 1.00 1.00
73033: Gatewood	Very limited ~low strength (very limited) ~depth to bedrock (very limited) ~shrink-swell (very limited)	 1.00 1.00 1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too clayey (very limited)	 1.00 1.00 1.00	 Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~wetness (very limited)	 1.00 1.00 1.00
73051: Winnipeg	 Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Moderately limited ~too clayey (moderately limited) 	0.55	 Very limited ~cutbanks cave (very limited) ~too clayey (slightly limited)	 1.00 0.15

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	 Source for sand 		 Source for grave 	el	 Source for topsoi 	1	 Shallow excavatio 	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73052: Lily	 Very limited ~depth to bedrock (very limited)	 1.00 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	İ	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~depth to bedrock (very limited) ~small stones (very limited) ~too sandy (slightly limited)	 1.00 1.00 0.26	 Very limited ~hard bedrock <40" (very limited) ~cutbanks cave (very limited)	1.00
73053: Lily	 Very limited ~depth to bedrock (very limited)	 1.00 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	İ	 Very limited ~depth to bedrock (very limited) ~too acid (slightly limited) ~too clayey (slightly limited)	1.00	 Very limited ~hard bedrock <40" (very limited) ~cutbanks cave (very limited)	1.00
Bender	 Very limited ~depth to bedrock (very limited) ~large stones (slightly limited)	 1.00 0.09 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	 1.00 1.00 	 Possible source ~possible source (bottom layer) ~possible source (thickest layer)	0.42	 Very limited ~depth to bedrock (very limited) ~small stones (very limited) ~large stones >25% (very limited)	1.00	Very limited -hard bedrock <40" (very limited) -cutbanks cave (slightly limited) -large stones (slightly limited)	 1.00 0.29 0.09
73054: Viburnum	 Limited ~wetness (limited) ~shrink-swell (moderately limited)	 0.76 0.45 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~too clayey (very limited) ~area reclaim (very limited) ~small stones (very limited)	 1.00 1.00 1.00	 Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~too clayey (limited)	 1.00 1.00 0.79

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	 Source for sand 		 Source for grave 	el	 Source for topsoi 	.1	 Shallow excavation 	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73056: Viburnum	 Very limited ~low strength (very limited) ~wetness (limited) ~shrink-swell (limited)	 1.00 0.86 0.81	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~small stones (very limited) ~too clayey (very limited) ~wetness (limited)	 1.00 1.00 0.86	 Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~too clayey (very limited)	 1.00 1.00 1.00
73057: Jerktail	 Very limited ~shrink-swell (very limited) ~wetness (limited)	 1.00 0.98 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	Very limited ~too clayey (very limited) ~small stones (very limited) ~wetness (limited)	 1.00 1.00 0.98	 Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~too clayey (very limited)	 1.00 1.00 1.00
73058: Gunlock	 Limited ~wetness (limited) ~shrink-swell (moderately limited) ~low strength (slightly limited)	0.82	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	Limited -too clayey (limited) -wetness (limited) -small stones (slightly limited)	0.83	Very limited -wetness (very limited) -cutbanks cave (very limited) -too clayey (very limited)	 1.00 1.00 1.00
73063: Bendavis	 Very limited ~depth to bedrock (very limited) ~wetness (slightly limited)	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~small stones (very limited) ~depth to bedrock (limited) ~too acid (slightly limited)	 1.00 0.93 0.30	 Very limited ~hard bedrock <40" (very limited) ~cutbanks cave (very limited) ~wetness (very limited)	 1.00 1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadf	ill	Source for sand	d	Source for grave	el	Source for topsoi	1	Shallow excavation	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73063: (cont) Poynor	 Very limited ~low strength (very limited) ~shrink-swell (slightly limited)		Not Rated Not Rated excess fines (thickest layer)	1.00	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~small stones (very limited) ~too acid (moderately limited) ~too clayey (moderately limited)	0.33	 Very limited ~cutbanks cave (very limited) ~too clayey (limited)	 1.00 0.99
73066: Bender	 Very limited ~depth to bedrock (very limited) ~large stones (limited) ~shrink-swell (slightly limited)	1.00	 Very limited ~small stones (thickest layer) ~small stones (bottom layer) ~excess fines (thickest layer)	1.00	(bottom layer) ~excess fines (thickest layer)	 1.00 1.00 1.00	 Very limited ~depth to bedrock (very limited) ~too sandy (very limited) ~small stones (very limited)	 1.00 1.00 1.00	 Very limited ~hard bedrock <40" (very limited) ~large stones (limited) ~cutbanks cave (slightly limited)	 1.00 0.97 0.29
73067: Bender	 Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (slightly limited) Not rated	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer) 	1.00	Possible source -possible source (bottom layer) -possible source (thickest layer)	0.42	Very limited -depth to bedrock (very limited) -slope (very limited) -small stones (very limited) Not rated	 1.00 1.00 1.00	 Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited) Not rated	 1.00 1.00 0.29
73068: Tick		1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~too clayey (very limited) ~slope (limited) ~too acid (moderately limited)	 1.00 0.63 0.42	 Very limited	1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	.11	 Source for sand 	l	Source for grave	el	 Source for topsoi 	1	 Shallow excavation 	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73069: Tick	- Very limited -low strength (very limited) -slope (limited) -shrink-swell (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 very limited ~slope (very limited) ~too clayey (very limited) ~too acid (moderately limited)	 1.00 1.00 0.42	 Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)	 1.00 1.00 0.29
73071: Hogcreek	- Very limited - depth to bedrock (very limited) - wetness (limited) - shrink-swell (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	0.99	 very limited ~small stones (very limited) ~dense layer <20" (very limited) ~wetness (limited)	 1.00 1.00 0.93	 Very limited ~dense layer <20" (very limited) ~hard bedrock <40" (very limited) ~wetness (very limited)	 1.00 1.00
73072: Hogcreek	Very limited -depth to bedrock (very limited) -wetness (limited) -shrink-swell (slightly limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	0.99	Very limited -small stones (very limited) -dense layer <20" (very limited) -wetness (limited)	 1.00 1.00 0.93	Very limited ~dense layer <20" (very limited) ~hard bedrock <40" (very limited) ~wetness (very limited)	 1.00 1.00 1.00
73073: Scholten	Limited ~wetness (limited) ~shrink-swell (slightly limited)	0.82	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~small stones (very limited) ~area reclaim (very limited) ~dense layer (limited)	 1.00 1.00 1.00	 Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~dense layer (limited)	 1.00 1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	 Source for sand 		 Source for grave 	el	Source for topsoi	1	 Shallow excavatio 	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value
73073: (cont) Poynor	 Very limited ~low strength (very limited) ~shrink-swell (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~small stones (very limited) ~slope (limited) ~too acid (moderately limited)	 1.00 0.63 0.42	(very limited)	 1.00 1.00 0.63
73076: Mano	Very limited ~low strength (very limited) ~slope (limited) ~shrink-swell (moderately limited)	 1.00 0.92 0.50	 very limited ~excess fines (thickest layer) ~excess fines (bottom layer)		Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~slope (very limited) ~small stones (very limited) ~too acid (moderately limited)	 1.00 1.00 0.48	(very limited) ~cutbanks cave (very limited)	 1.00 1.00
Ocie	Very limited ~low strength (very limited) ~slope (limited) ~shrink-swell (limited)	 1.00 0.92 0.85	Very limited -excess fines (thickest layer) -excess fines (bottom layer)		 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 very limited ~slope (very limited) ~too clayey (very limited) ~small stones (limited)	 1.00 1.00 0.88	(very limited)	 1.00 1.00 1.00
73077: Eudy	Very limited ~low strength (very limited) ~depth to bedrock (very limited) ~shrink-swell (very limited)	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~too clayey (very limited) ~wetness (limited) ~small stones (limited)	 1.00 0.98 0.88	Very limited ~hard bedrock <40" (very limited) ~wetness (very limited) ~cutbanks cave (very limited)	 1.00 1.00 1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadf:	111	Source for sand	i.	Source for grave	el	Source for topsoi	1	Shallow excavation	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73080: Alred	 Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 Very limited ~slope (very limited) ~small stones (very limited) ~large surface stones (moderately limited)	1	 Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)	 1.00 1.00 0.29
Bardley	Very limited ~low strength (very limited) ~depth to bedrock (very limited) ~slope (very limited)	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 	 1.00 1.00 1.00	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (very limited)	 1.00 1.00
Rock outcrop	 Not rated 		 Not rated 		 Not rated 		 Not rated 	 	 Not rated 	
73081: Bender	 Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer) ~small stones (thickest layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer) ~small stones (thickest layer)	1.00	 very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	 1.00 1.00 	(very limited)	1.00
Alred	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	Very limited ~slope (very limited) ~small stones (very limited) ~large stones >25% (very limited)	 1.00 1.00 1.00	Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)	 1.00 1.00 0.29
Rock outcrop	 Not rated 		 Not rated 		 Not rated 		 Not rated 	 	 Not rated 	

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	Source for sand	l	Source for grave	el	Source for topsoi	1	Shallow excavation	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73087: Celt	Very limited -low strength (very limited) -wetness (very limited) -shrink-swell (limited)	 1.00 1.00 0.77	 very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Very limited ~dense layer <20" (very limited) ~too clayey (very limited) ~wetness (very limited)	 1.00 1.00 1.00	Very limited ~dense layer <20" (very limited) ~wetness (very limited) ~cutbanks cave (very limited)	 1.00 1.00
73159: Yelton	 - Limited ~wetness (limited) ~shrink-swell (slightly limited)	0.82	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~dense layer <20" (very limited) ~wetness (limited) ~small stones (moderately limited)	 1.00 0.82 0.50	Very limited ~dense layer <20" (very limited) ~wetness (very limited) ~cutbanks cave (slightly limited)	 1.00 1.00 0.29
73176: Bendavis	 - Very limited ~depth to bedrock (very limited) ~wetness (slightly limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	0.75	Very limited ~depth to bedrock (very limited) ~small stones (very limited) ~slope (limited)	 1.00 1.00 0.63	Very limited ~hard bedrock <40" (very limited) ~cutbanks cave (very limited) ~wetness (very limited)	 1.00 1.00
Poynor	 Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00 	 Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~too clayey (very limited) ~slope (limited) ~too acid (moderately limited)	 1.00 0.63 0.36	 very limited ~too clayey (very limited) ~slope (limited) ~cutbanks cave (slightly limited)	 1.00 0.63 0.29

Construction Materials and Excavating

Map symbol and soil name	Source for roadfi	11	Source for sand	l	Source for grave	el	Source for topsoi	1	Shallow excavation	ons
	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73197: Viburnum	~wetness (limited)	 0.86 0.45	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)		Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~too clayey (very limited) ~area reclaim (very limited) ~small stones (very limited)	1.00	Very limited -wetness (very limited) -cutbanks cave (very limited) -too clayey (limited)	 1.00 1.00 0.79
73198: Gressy Viraton	Slightly limited ~low strength (slightly limited) ~shrink-swell (slightly limited) Moderately limited ~wetness (moderately limited) ~shrink-swell (slightly limited)	0.18	Very limited -excess fines (thickest layer) -excess fines (bottom layer) Very limited -excess fines (thickest layer) -excess fines (bottom layer) (bottom layer)	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer) Possible source -excess fines (bottom layer) -possible source (thickest layer)	1.00	<pre>(slightly limited) ~area reclaim (slightly limited) Very limited ~small stones (very limited)</pre>	0.08	Very limited ~cutbanks cave (very limited) ~too clayey (very limited) Very limited ~dense layer <20" (very limited) ~wetness (very limited) ~cutbanks cave	 1.00 1.00 1.00 1.00
73199: Moko	<pre> ~depth to bedrock (very limited) ~large stones (limited) ~low strength (slightly limited)</pre>	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer) -small stones (bottom layer) Not rated	1.00	Very limited -small stones (bottom layer) -excess fines (thickest layer) -possible source (bottom layer) Not rated	1.00	<pre> ~too acid (limited) </pre>	1.00	<pre> ~cutbanks cave (very limited) Very limited ~hard bedrock <40" (very limited) ~large stones (limited) ~cutbanks cave (slightly limited) Not rated</pre>	1.00 1.00 0.86 0.29

Construction Materials and Excavating

Map symbol and soil name	Source for roadfill		 Source for sand 		Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73220: Poynor	 Very limited ~low strength (very limited) ~shrink-swell (slightly limited)	 1.00 0.14	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~small stones (very limited) ~slope (limited) ~too acid (moderately limited)	 1.00 0.63 0.42	 Very limited ~cutbanks cave (very limited) ~too clayey (very limited) ~slope (limited)	 1.00 1.00 0.63
73221: Poynor	 Very limited ~low strength (very limited) ~shrink-swell (slightly limited) ~slope (slightly limited)	 1.00 0.14 0.08	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	1.00	 very limited ~small stones (very limited) ~slope (very limited) ~too acid (moderately limited)	 1.00 1.00 0.36	 Very limited ~cutbanks cave (very limited) ~too clayey (very limited) ~slope (very limited)	 1.00 1.00 1.00
73222: Splitlimb	 Very limited ~low strength (very limited) ~wetness (limited) ~shrink-swell (moderately limited)	 1.00 0.76 0.45	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Limited ~wetness (limited) ~too acid (moderately limited) ~too clayey (moderately limited)	0.76	 Very limited ~ponded (wetness) (very limited) ~wetness (very limited) ~cutbanks cave (slightly limited)	 1.00 1.00 0.29
73223: Coulstone	 Limited ~slope (limited) ~large stones (limited)	0.92	Very limited	1.00	 Limited ~excess fines (thickest layer) ~excess fines (bottom layer) ~large stones (thickest layer)	1.00	 Very limited ~slope (very limited) ~small stones (very limited) ~area reclaim (very limited)	 1.00 1.00 1.00	 Very limited ~slope (very limited) ~large stones (limited) ~cutbanks cave (slightly limited)	1.00

Construction Materials and Excavating

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73223: (cont) Bender	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (limited)	 1.00 1.00 0.71	Very limited -excess fines (thickest layer) -excess fines (bottom layer) -small stones (thickest layer)	1.00	Limited ~excess fines (bottom layer) ~excess fines (thickest layer) ~small stones (thickest layer)	0.75	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	 1.00 1.00 	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~large stones (limited)	 1.00 1.00 0.71
73224: Moko	<pre> ~depth to bedrock (very limited) ~slope (limited) ~large stones (limited)</pre>	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer) -small stones (bottom layer) Not rated	1.00	Very limited	1.00	Very limited	 1.00 1.00 1.00	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~large stones (limited) Not rated	1.00
74626: Tanglenook	Very limited -low strength (very limited) -wetness (very limited) -shrink-swell (very limited)	1.00	Not Rated Not Rated ~excess fines (thickest layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~wetness (very limited) ~too clayey (very limited)	1.00	 Very limited ~wetness (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)	1.00
74627: Hartville	Very limited ~low strength (very limited) ~shrink-swell (very limited) ~wetness (moderately limited)	1.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~too clayey (very limited) ~wetness (moderately limited)	 1.00 0.48 	 Very limited ~wetness (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)	 1.00 0.33 0.29

Construction Materials and Excavating

Map symbol and soil name	 Source for roadfi: 	11	Source for sand		 Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74629: Raftville	 Very limited ~depth to bedrock (very limited)	1.00	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)		 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~depth to bedrock (very limited) ~too acid (moderately limited)	1.00	 Very limited ~hard bedrock <40" (very limited) ~cutbanks cave (slightly limited)	11.00
74636: Lecoma	 Moderately limited ~shrink-swell (moderately limited) 	0.45	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Not limited 	 	 Slightly limited ~cutbanks cave (slightly limited)	0.29
74637: Lecoma	 Moderately limited ~shrink-swell (moderately limited)	 0.45 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Slightly limited ~slope (slightly limited)	 0.16 	 Slightly limited ~cutbanks cave (slightly limited) ~slope (slightly limited)	 0.29 0.16
74677: Deible	 Very limited ~wetness (very limited) ~shrink-swell (very limited)	 1.00 1.00 	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 very limited ~wetness (very limited) ~too clayey (very limited)	 1.00 1.00 	 Very limited ~wetness (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)	 1.00 0.60 0.29
74679: Higdon	 Very limited ~low strength (very limited) ~wetness (limited) ~shrink-swell (slightly limited)	1.00 0.86 0.23	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	 1.00 1.00 	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Limited ~wetness (limited) ~too clayey (slightly limited)	 0.86 0.08 	 very limited ~wetness (very limited) ~cutbanks cave (slightly limited)	 1.00 0.29

Construction Materials and Excavating

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75381: Bearthicket	Very limited ~low strength (very limited)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Not limited 		 Slightly limited ~cutbanks cave (slightly limited)	0.29
75382: Cedargap	 Not limited 		 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Very limited ~small stones (very limited) ~area reclaim (very limited) ~too clayey (slightly limited)	 1.00 1.00 0.08	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited) ~wetness (slightly limited)	 1.00 0.60 0.16
75388: Kaintuck	 Not limited 		 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	 Limited ~too sandy (limited) 	0.73	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)	 1.00 0.60
Relfe	Not limited		Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	1.00	 Possible source ~possible source (thickest layer) ~possible source (bottom layer)	0.50	 	 1.00 1.00 1.00	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited) 	 1.00 0.60
75389: Dunning	Very limited -wetness (very limited) -low strength (very limited) -shrink-swell (limited)	 1.00 1.00 0.65	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	İ	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	 1.00 1.00	 Very limited ~wetness (very limited) ~too clayey (very limited) ~too acid (slightly limited)	 1.00 1.00 0.30	(very limited) ~too clayey (limited)	 1.00 0.79 0.60

Construction Materials and Excavating

Map symbol and soil name	 Source for roadfill 		Source for sand		Source for gravel		Source for topsoil		 Shallow excavations 	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75389: (cont) Hercules	 Very limited ~wetness (very limited) ~shrink-swell (moderately limited)	 1.00 0.45 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	0.75	 Very limited ~wetness (very limited) ~small stones (very limited) ~area reclaim (very limited)	 1.00 1.00	Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~flooding ((moderately limited)	 1.00 1.00 0.60
75390: Razort	 Not limited 	 	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1	 Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~area reclaim (very limited) ~small stones (moderately limited)	 1.00 0.50	 Very limited ~cutbanks cave (very limited)	 1.00
75391: Possumtrot	 Not limited 		Not Rated Not Rated excess fines (thickest layer)	 1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Limited ~too sandy (limited) ~area reclaim (slightly limited) ~too acid (slightly limited)	 0.67 0.08 0.06	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)	 1.00 0.60
75392: Stultz	 Very limited ~wetness (very limited) ~depth to bedrock (limited) ~shrink-swell (moderately limited)	 1.00 0.66 0.42	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Possible source ~possible source (bottom layer) ~possible source (thickest layer)	0.42	 Very limited ~wetness (very limited) ~small stones (very limited) ~area reclaim (very limited)	 1.00 1.00 1.00	Very limited ~wetness (very limited) ~cutbanks cave (very limited) ~depth to bedrock (limited)	 1.00 1.00 0.82

Construction Materials and Excavating

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value _	Rating class and limiting features	Value	Rating class and limiting features	Value
75406: Racket	 Limited ~low strength (limited) ~shrink-swell (slightly limited)	0.78	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	1.00	(thickest layer)	1.00	 Very limited ~area reclaim (very limited) 	1.00	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited) ~wetness (slightly limited)	1.00 0.60 0.16
75417: Relfe	 Not limited		Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Very limited ~too sandy (very limited) ~small stones (very limited) ~area reclaim (very limited)	1.00	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)	1.00
Sandbur	Not limited		Limited -excess fines (thickest layer) -excess fines (bottom layer)	 1.00 0.97	(thickest layer)	1.00	 very limited ~area reclaim (very limited) ~too sandy (limited)	1.00	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)	 1.00 0.60
75418: Tilk	 Slightly limited ~large stones (slightly limited)	0.00	Very limited -excess fines (thickest layer) -excess fines (bottom layer)	1.00	 Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	1.00	Very limited ~small stones (very limited) ~area reclaim (very limited) ~too sandy (limited)	1.00	Very limited ~cutbanks cave (very limited) ~large stones (slightly limited)	1.00
75419: Perche	 - Very limited ~wetness (very limited) 	1.00	 Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	 1.00 0.05	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	 1.00 1.00	 Very limited ~wetness (very limited) ~area reclaim (limited) ~too sandy (moderately limited)		(very limited)	 1.00 1.00 0.60

Construction Materials and Excavating

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75420: Secesh	 Not limited		 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~small stones (very limited) ~area reclaim (limited) ~too clayey (slightly limited)	1.00	 Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)	1.00
Tilk	Not limited 		 very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	 Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	1.00	Very limited ~small stones (very limited) ~area reclaim (very limited) ~too sandy (limited)	1.00	(very limited)	 1.00 0.60
99000: Pits, quarries-	 Not rated 		 Not rated 		 Not rated 		 Not rated 		 Not rated 	
99001: Water	 Not rated 		 Not rated 		 Not rated 		Not rated		 Not rated 	